gascar, and whose zealous efforts have very materially forwarded our knowledge of the ornithology of the East-African Archipelago.

The genus *Tylas* is nearly allied to *Hypsipetes*, but differs in the beak being decidedly stronger, broader, and more inflated; in the longer wings, which in *Hypsipetes* do not reach to the middle of the tail; in the tail being proportionally shorter; and in the rictal bristles being much more developed. The under tail-coverts are very long. The iris is yellow—a colour not found hitherto in the genus *Hypsipetes*. The whole system of coloration is different from that of the latter genus.

MISCELLANEOUS.

Notice of a new Species of Cynopterus *from Morty Island.* By Dr. J. E. Gray, F.R.S.

The British Museum has lately received from Mr. A. R. Wallace two interesting specimens of a fruit-eating Bat from Morty Island, collected in 1861, which appears not yet to have been registered in the Catalogues. I therefore subjoin a short specific description of it. It is easily known from all the other species by the extraordinary length of its tail; indeed, it seems to form a section or subgenus apart, that may be called *Uronycteris*.

Cynopterus (*Uronycteris*) *albiventer*.

Tail elongate and free, produced beyond the narrow interfemoral membrane. Nostrils much produced, tubular, and far apart. Brown above, with greyer base to the hairs. Face and throat only slightly hairy, grey; side of the neck and breast yellow-brown; side of the body brown; chest and middle of the belly white; the wing brown.

Hab. Morty Island.

The length of the fore-arm 2 inches; length of tail (dry) nearly $\frac{3}{4}$ inch.

The wing-bone on the upper surface of the wings of both specimens is marked with some irregular white spots; these may be only accidentally or even artificially produced in the process of preservation, or by carriage, as the spots on the two sides of the same wing are unlike, and those of the two specimens dissimilar.

On the Larvæ of Hypoderma. By F. Brauer.

In August 1860, the author communicated to the Zoological and Botanical Society of Vienna some observations on the change of skin in the larvæ of *Hypoderma*. He now calls attention to the agreement of his observations with those published by Leuckart on the larvæ of the *Muscidæ*, which is especially important, as the investigations were quite independent of each other.

In the *Œstridæ* change of skin was said to take place by Neuman and Joly; but neither of these authors had witnessed this pheno-

menon, the occurrence of which they were led to suppose by observing the difference between young and adult larvæ of *Gastrus*.

The investigation of the cause of this change increases the interest attaching to the observations. In a larva living in the same way from its exclusion from the egg to its change to the pupa state, such a cause can hardly be discovered; but it is otherwise with the larvæ of the *Œstridæ*, which must wander to the place where they can attain maturity. In this respect the *Œstridæ* are divisible into two groups, the egg-laying and larviparous forms. To the former belong *Gastrus* and *Hypoderma*; to the latter, *Cephalomyia* and *Cephenomyia*. In the former genera, the larva has to get into the stomach or under the skin, as the eggs are deposited by the imago upon hairs. In *Cephalomyia* and *Cephenomyia* the female injects the maggots into the nose of the animal on which they are parasitic. The greatest difference between the young and adult larvæ occurs in those which have the greatest migration to perform,—consequently in the larvæ of *Gastrus* and *Hypoderma*.

The author's observations were made on numerous larvæ of *Hypoderma Diana*, n. sp., from the skin of the Roe.

First stage (duration unknown, but probably very long, as the fly appears only for a few days in May, and the larvæ are found in this stage in the following February. The end of January and beginning of February may be regarded as the period of transition to the second stage).—In this stage the larva grows to a length of 6½ lines, but remains nearly cylindrical and scarcely 1 line in diameter. Anterior extremity rounded off; posterior extremity like the anterior, or the last three segments attenuated into a tail, at the pleasure of the larva. Buccal organs very small. Buccal orifice funnel-shaped; above it projects a straight spike, which rests upon a transverse chitinous piece concealed in the œsophagus, from which on each side a chitinous arch proceeds backwards and terminates in a shovel-like plate, as in almost all larvæ of flies. The shovel-like plates are on each side of the œsophagus, and their faces are vertical.

Close to the first-mentioned spike are two hooks (one on each side); these are bent at right angles, and their free ends are directed outwards and downwards. They can be moved so as to form a single point with the median spike; if then their points are bent outwards and backwards, it is clear that the larva will push itself forward, and readily bore into any object opposed to it. The anterior stigmata are pretty large; they are on the sides of the upper part of the second segment; they are round, and bordered on the inner margin by a semilunar chitinous band. Posterior stigmata forming two small, irregular, porous, chitinous plates. Round the stigmata the last segment bears numerous small, round chitinous plates, which give it a punctured appearance. The larva has eleven segments, and appears naked; there are some microscopic spines only in the funnel-shaped pit of the mouth and on the margin of the lower lip.

Second stage (duration very short, at the utmost one month. This form appears from the end of January to the middle of February, usually together with the first and third forms).—Larva at first

shorter than in the first stage, but broader. It grows from 5 to 7 lines long, and is easily recognized by the black spots on the lower surface, which consist of dense groups of black spines. Above, the larva is quite naked, with the exception of the first three segments. Mouth forming a V-shaped pit; its margins bordered laterally and below by rough, thick chitinous bands, which are firmly united below, and internally spread out into the above-mentioned chitinous plates and numerous filaments embracing the œsophagus. Spike and hooks wanting. No anterior stigmata observed. Posterior stigmata reniform, forming a very coarsely cellular plate on each side. Form of the larva very changeable; the posterior end is very often much attenuated, like a tail.

Third stage (duration from February to April).—Mouth a funnel-shaped pit with membranous margins; in the pit a small horny ring, immediately followed by the œsophagus, which directly afterwards passes over a chitinous frame from which the chitinous shovel-like plates issue. Above the buccal pit there are two horny rings, as rudimentary antennæ. Anterior stigmata very small, on the hinder margin of the first segment. Posterior stigmata reniform, nearly smooth, flat, radiately furrowed.

From this it follows that the young larvæ can bore their way into the skin, and subsequently undergo a retrograde metamorphosis of their buccal organs. The author remarks upon the fact that thus organs of so much importance as the parts of the mouth may lose their significance in a systematic point of view. A more detailed account of his observations is promised in a forthcoming monograph of the *Œstridæ*.—*Wiegmann's Archiv*, 1862, p. 210.

The King Crab (Limulus Polyphemus) *found on the English Coast.*

By Dr. J. E. Gray, F.R.S. &c.

The King Crab has lately been frequently imported into Liverpool, and is shown alive at the Free Museum of that town, and also in the Zoological Gardens in the Regent's Park.

Mr. Walker, the Arctic traveller, lately took a living specimen with him to Paris, with the idea of presenting it to the Jardin des Plantes; but he failed in doing so through the absence of the Professors to whom he had an introduction. Being tired of the charge of the animal, and of providing it with fresh sea-water, &c., he threw it overboard, between Boulogne and Dover, on his way back.

The animal must have been washed ashore at Dover; for I have had more than one account of its having been found on that coast, and one kind correspondent offered to secure it for the British Museum at the price of five pounds.

It is as well that this should be recorded; for otherwise it may at some future day, when the circumstance of its having been thrown into the water is forgotten, be placed in the fauna as a rare or occasional visitor, instead of being artificially introduced.